UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,576	02/28/2002	Nischal Abrol	010462	9020

23696   7590   07/11/2008
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EXAMINER
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ART UNIT	PAPER NUMBER
2616	

NOTIFICATION DATE	DELIVERY MODE
07/11/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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	Application No.	Applicant(s)
	10/086,576	ABROL ET AL.
Office Action Summary	Examiner	Art Unit	
	TOAN D. NGUYEN	2616	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

> A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
> WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
> - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
>   after SIX (6) MONTHS from the mailing date of this communication.
> - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
> - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
>   Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
>   earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>22 April 2008</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>5-7,15,17-19,26,33 and 36</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>5-7,15,17-19,26,33 and 36</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>28 February 2002</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a) ☐ All   b) ☐ Some * c) ☐ None of:

   1. ☐ Certified copies of the priority documents have been received.

   2. ☐ Certified copies of the priority documents have been received in Application No. _____.

   3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
      application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail. Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on

04/22/08 has been entered.

Response to Arguments

2.   Applicant's arguments with respect to claims 5-7, 15, 17-19, 26, 33 and 36 have

been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

5.   Claims 5-6, 26 and 33 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Asahina (US 2002/0015417) in view of Shacher et al. (US 5,671,223)

further in view of Aggarwal et al. (US 6,249,525).

        For claim 5, Asahina discloses communication system between a radio

communication network and a connectionless network and interworking apparatus for

use in the communication system, comprising:

        an input interface unit (figure 4, reference 40) operative wirelessly to receive data

to be deframed from one or more Radio Link Protocol (RLP) packet (page 4, paragraph

[0050], lines 1-4); and

        a conversion unit (figure 6, references 341-345) operative to deframe the

received data based on the first set of control signals to provide deframed data, wherein

the received data is PPP packet data (page 5, paragraph [0058], lines 2-7).

        However, Asahina does not disclose:

        a detection unit operative to evaluate each data byte from the input interface unit

to detect for bytes of specific values, the detection unit is operative to detect for flag

bytes in the received data; and

        a state control unit operative to provide a first set of control signals indicative of

specific tasks to be performed for deframing based in part on the detected bytes of

specific values.

        In an analogous art, Shacher et al. disclose:

a detection unit (figure 9, reference 308) operative to evaluate each data byte from the input interface unit to detect for bytes of specific values (col. 11, line 65 to col. 12, line 1), the detection unit is operative to detect for flag bytes in the received data (col. 11, line 67 to col. 12, line 1); and

a state control unit (figure 9, reference 312) operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific values (col. 12, lines 27-57).

One skilled in the art would have recognized the detection unit, and would have applied Shacher et al.'s detection circuitry 308 in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Shacher et al.'s multichannel HDLC framing/deframing machine in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being to identify flags (col. 11, line 67 to col. 12, line 1).

Furthermore, Asahina in view of Shacher et al. does not expressly disclose the conversion unit being operative to remove flag and escape bytes in the received data, and the detection unit is operative to detect for escape bytes in the received data. In an analogous art, Aggarwal et al. disclose remove flag and escape bytes in the received data (col. 13, line 66 to col. 14, line 14), and the detection unit is operative to detect for escape bytes in the received data (col. 1, lines 43-44).

One skilled in the art would have recognized the remove flag and escape bytes in the received data, and would have applied Aggarwal et al.'s HDLC operation in

Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill

in the art at the time of the invention, to use Aggarwal et al.'s method of and apparatus

for inserting and/or deleting escape characters into and from data packets and

datagrams therefor on high speed data stream networking lines in Asahina's

communication system between a radio communication network and a connectionless

network and interworking apparatus for use in the communication system with the

motivation being compared with either 7d or 7e or some programmed ACCM characters

(col. 14, lines 7-9).

For claim 6, Asahina discloses communication system between a radio

communication network and a connectionless network and interworking apparatus for

use in the communication system, comprising:

an input interface unit (figure 4, reference 40) operative wirelessly to receive data

to be deframed (page 4, paragraph [0050], lines 1-4); and

a conversion unit (figure 6, references 341-345) operative to deframe the

received data based on the first set of control signals to provide deframed data, wherein

the received data is PPP packet data (page 5, paragraph [0058], lines 2-7).

However, Asahina does not disclose:

a detection unit operative to evaluate each data byte from the input interface unit

to detect for bytes of specific values, and operative to detect for and remove flag and

escape bytes in the received data; and

a state control unit operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific values.

In an analogous art, Shacher et al. disclose:

a detection unit (figure 9, reference 308) operative to evaluate each data byte from the input interface unit to detect for bytes of specific values (col. 11, line 65 to col. 12, line 1) and operative to detect for flag bytes in the received data (col. 11, line 67 to col. 12, line 1);

a state control unit (figure 9, reference 312) operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific values (col. 12, lines 27-57).

One skilled in the art would have recognized the detection unit, and would have applied Shacher et al.'s detection circuitry 308 in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Shacher et al.'s multichannel HDLC framing/deframing machine in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being to identify flags (col. 11, line 67 to col. 12, line 1).

Furthermore, Asahina in view of Shacher et al. does not expressly disclose operative to detect for and remove escape bytes in the received data, and operative to un-escape a data byte following each detected escape byte in the received data. In an analogous art, Aggarwal et al. disclose operative to detect for and remove escape bytes

in the received data, and operative to un-escape a data byte following each detected escape byte in the received data (col. 13, line 66 to col. 14, line 14).

One skilled in the art would have recognized the operative to detect for and remove escape bytes in the received data, and operative to un-escape a data byte following each detected escape byte in the received data, and would have applied Aggarwal et al.'s HDLC operation in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Aggarwal et al.'s method of and apparatus for inserting and/or deleting escape characters into and from data packets and datagrams therefor on high speed data stream networking lines in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being compared with either 7d or 7e or some programmed ACCM characters (col. 14, lines 7-9).

For claim 26, Asahina discloses communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system, comprising:

an input interface unit (figure 4, reference 40) operative to receive data to be deframed from one or more Radio Link Protocol (RLP) packet (page 4, paragraph [0050], lines 1-4); and

a conversion unit (figure 6, references 341-345) operative to deframe the received data based on the first set of control signals to provide deframed data, wherein the received data is PPP packet data (page 5, paragraph [0058], lines 2-7).

However, Asahina does not disclose:

a detection unit operative to evaluate each data byte from the input interface unit to detect for bytes of specific values; and

a state control unit operative to provide a first set of control signals indicative of specific tasks to be performed for framing based in part on the detected bytes of specific values.

In an analogous art, Shacher et al. disclose:

a detection unit (figure 9, reference 308) operative to evaluate each data byte from the input interface unit to detect for bytes of specific values (col. 11, line 65 to col. 12, line 1); and

a state control unit (figure 9, reference 312) operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific values (col. 12, lines 27-57).

One skilled in the art would have recognized the detection unit, and would have applied Shacher et al.'s detection circuitry 308 in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Shacher et al.'s multichannel HDLC framing/deframing machine in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being to identify flags (col. 11, line 67 to col. 12, line 1).

Furthermore, Asahina in view of Shacher et al. does not expressly disclose the conversion unit is operative to insert an escape byte upon detection of a data byte

having one of the specific values. In an analogous art, Aggarwal et al. disclose the conversion unit is operative to insert an escape byte upon detection of a data byte having one of the specific values (col. 13, lines 66-67).

One skilled in the art would have recognized the conversion unit is operative to insert an escape byte upon detection of a data byte having one of the specific values, and would have applied Aggarwal et al.'s HDLC operation in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Aggarwal et al.'s method of and apparatus for inserting and/or deleting escape characters into and from data packets and datagrams therefor on high speed data stream networking lines in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being compared with either 7d or 7e or some programmed ACCM characters (col. 14, lines 7-9).

For claim 33, Asahina discloses communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system, comprising:

an input interface unit (figure 4, reference 40) operative to receive data to be framed from one or more Radio Link Protocol (RLP) packet (page 4, paragraph [0050], lines 1-4); and

a conversion unit (figure 6, references 341-345) operative to frame the received data based on the first set of control signals and to provide framed data, wherein the received data is PPP packet data (page 5, paragraph [0058], lines 2-7).

However, Asahina does not disclose:

a detection unit operative to evaluate each data byte from the input interface unit to detect for bytes of specific values; and

a state control unit operative to provide a first set of control signals indicative of specific tasks to be performed for framing based in part on the detected bytes of specific values.

In an analogous art, Shacher et al. disclose:

a detection unit (figure 9, reference 308) operative to evaluate each data byte from the input interface unit to detect for bytes of specific values (col. 11, line 65 to col. 12, line 1); and

a state control unit (figure 9, reference 312) operative to provide a first set of control signals indicative of specific tasks to be performed for framing based in part on the detected bytes of specific values (col. 12, lines 27-57).

One skilled in the art would have recognized the detection unit, and would have applied Shacher et al.'s detection circuitry 308 in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Shacher et al.'s multichannel HDLC framing/deframing machine in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being to identify flags (col. 11, line 67 to col. 12, line 1).

Furthermore, Asahina in view of Shacher et al. do not expressly disclose wherein the framer is in one of a plurality of operating states at any given moment, and wherein

the operating states include an idle state indicative of no framing being performed and a

process state indicative of framing being performed, the operating states further include

an escape state indicative of processing for an escape byte. In an analogous art,

Aggarwal et al. disclose wherein the framer is in one of a plurality of operating states at

any given moment, and wherein the operating states include an idle state indicative of

no framing being performed and a process state indicative of framing being performed,

the operating states further include an escape state indicative of processing for an

escape byte (col. 13, lines 66-67).

One skilled in the art would have recognized the wherein the framer is in one of a

plurality of operating states at any given moment, and wherein the operating states

include an idle state indicative of no framing being performed and a process state

indicative of framing being performed, the operating states further include an escape

state indicative of processing for an escape byte, and would have applied Aggarwal et

al.'s HDLC operation in Asahina's interworking 40. Therefore, it would have been

obvious to one of ordinary skill in the art at the time of the invention, to use Aggarwal et

al.'s method of and apparatus for inserting and/or deleting escape characters into and

from data packets and datagrams therefor on high speed data stream networking lines

in Asahina's communication system between a radio communication network and a

connectionless network and interworking apparatus for use in the communication

system with the motivation being compared with either 7d or 7e or some programmed

ACCM characters (col. 14, lines 7-9).

6.   Claims 7, 17-19 and 36 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Asahina (US 2002/0015417) in view of Shacher et al. (US 5,671,223)

and Aggarwal et al. (US 6,249,525) further in view of W. Simpson, RFC 1662.

For claim 7, Asahina discloses communication system between a radio

communication network and a connectionless network and interworking apparatus for

use in the communication system, comprising:

an input interface unit (figure 4, reference 40) operative wirelessly to receive data

to be deframed from one or more Radio Link Protocol (RLP) packet (page 4, paragraph

[0050], lines 1-4); and

a conversion unit (figure 6, references 341-345) operative to deframe the

received data based on the first set of control signals to provide deframed data, wherein

the received data is PPP packet data (page 5, paragraph [0058], lines 2-7).

However, Asahina does not disclose:

a detection unit operative to evaluate each data byte from the input interface unit

to detect for bytes of specific values and operative to detect for flag bytes in the

received data;

a state control unit operative to provide a first set of control signals indicative of

specific tasks to be performed for deframing based in part on the detected bytes of

specific values.

In an analogous art, Shacher et al. disclose:

a detection unit (figure 9, reference 308) operative to evaluate each data byte

from the input interface unit to detect for bytes of specific values (col. 11, line 65 to col.

12, line 1) and operative to detect for flag bytes in the received data (col. 11, line 67 to

col. 12, line 1);

a state control unit (figure 9, reference 312) operative to provide a first set of

control signals indicative of specific tasks to be performed for deframing based in part

on the detected bytes of specific values (col. 12, lines 27-57).

One skilled in the art would have recognized the detection unit, and would have

applied Shacher et al.'s detection circuitry 308 in Asahina's interworking 40. Therefore,

it would have been obvious to one of ordinary skill in the art at the time of the invention,

to use Shacher et al.'s multichannel HDLC framing/deframing machine in Asahina's

communication system between a radio communication network and a connectionless

network and interworking apparatus for use in the communication system with the

motivation being to identify flags (col. 11, line 67 to col. 12, line 1).

Asahina in view of Shacher et al. does not expressly disclose operative to detect

for escape bytes in the received data; and further operative to provide a header word for

each detected flag byte in the received data. In an analogous art, Aggarwal et al.

disclose operative to detect for escape bytes in the received data; and further operative

to provide a word for each detected flag byte in the received data (col. 1, lines 43-44,

and col. 13, line 66 to col. 14, line 14).

One skilled in the art would have recognized the operative to detect for and

remove flag and escape bytes in the received data, and operative to un-escape a data

byte following each detected escape byte in the received data, and would have applied

Aggarwal et al.'s HDLC operation in Asahina's interworking 40. Therefore, it would have

been obvious to one of ordinary skill in the art at the time of the invention, to use

Aggarwal et al.'s method of and apparatus for inserting and/or deleting escape

characters into and from data packets and datagrams therefor on high speed data

stream networking lines in Asahina's communication system between a radio

communication network and a connectionless network and interworking apparatus for

use in the communication system with the motivation being compared with either 7d or

7e or some programmed ACCM characters (col. 14, lines 7-9).

Furthermore, Asahina in view of Shacher et al. and Aggarwal et al. do not

expressly disclose operative to provide a header word for each detected flag byte in the

received data. In an analogous art, W. Simpson disclose operative to provide a header

word for each detected flag byte in the received data (section 3.1 Frame Format).

One skilled in the art would have recognized the operative to provide a header

word for each detected flag byte in the received data, and would have applied

W.Simpson's frame format in Asahina's interworking 40. Therefore, it would have been

obvious to one of ordinary skill in the art at the time of the invention, to use W.

Simpson's PPP in HDLC-like Framing in Asahina's communication system between a

radio communication network and a connectionless network and interworking apparatus

for use in the communication system with the motivation being to provide the PPP

HDLC-like frame structure (section 3.1 Frame Format).

For claim 17, Asahina discloses communication system between a radio

communication network and a connectionless network and interworking apparatus for

use in the communication system, comprising:

an input interface unit (figure 4, reference 40) operative wirelessly to receive data to be deframed from one or more Radio Link Protocol (RLP) packet (page 4, paragraph [0050], lines 1-4); and

a conversion unit (figure 6, references 341-345) operative to deframe the received data based on the first set of control signals to provide deframed data, wherein the received data is PPP packet data (page 5, paragraph [0058], lines 2-7).

However, Asahina does not disclose:

a detection unit operative to evaluate each data byte from the input interface unit to detect for bytes of specific values;

a state control unit operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific value.

In an analogous art, Shacher et al. disclose:

a detection unit (figure 9, reference 308) operative to evaluate each data byte from the input interface unit to detect for bytes of specific values (col. 11, line 65 to col. 12, line 1);

a state control unit (figure 9, reference 312) operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific value (col. 11, line 65 to col. 12, line 1).

One skilled in the art would have recognized the detection unit, and would have applied Shacher et al.'s detection circuitry 308 in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention,

to use Shacher et al.'s multichannel HDLC framing/deframing machine in Asahina's
communication system between a radio communication network and a connectionless
network and interworking apparatus for use in the communication system with the
motivation being to identify flags (col. 11, line 67 to col. 12, line 1).

However, Asahina in view of Shacher et al. do not expressly disclose wherein the
operating states include an idle state indicative of no deframing being performed and a
process state indicative of deframing being performed, and wherein the operating states
further include an escape state indicative of processing for an escape byte and a
header state indicative of generation of a header for the deframed data. In an analogous
art, Aggarwal et al. disclose wherein the operating states include an idle state indicative
of no deframing being performed and a process state indicative of deframing being
performed, and wherein the operating states further include an escape state indicative
of processing for an escape byte (col. 1, lines 43-44, and col. 13, line 66 to col. 14, line
14).

One skilled in the art would have recognized the wherein the operating states
include an idle state indicative of no deframing being performed and a process state
indicative of deframing being performed, and wherein the operating states further
include an escape state indicative of processing for an escape byte, and would have
applied Aggarwal et al.'s HDLC operation in Asahina's interworking 40. Therefore, it
would have been obvious to one of ordinary skill in the art at the time of the invention, to
use Aggarwal et al.'s method of and apparatus for inserting and/or deleting escape
characters into and from data packets and datagrams therefor on high speed data

stream networking lines in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being compared with either 7d or 7e or some programmed ACCM characters (col. 14, lines 7-9).

Furthermore, Asahina in view of Shacher et al. and Aggarwal et al. do not expressly disclose a header state indicative of generation of a header for the deframed data. In an analogous art, W. Simpson discloses a header state indicative of generation of a header for the deframed data (section 3.1 Frame Format).

One skilled in the art would have recognized the header state indicative of generation of a header for the deframed data, and would have applied W.Simpson's frame format in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use W. Simpson's PPP in HDLC-like Framing in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being to provide the PPP HDLC-like frame structure (section 3.1 Frame Format).

For claim 18, Asahina discloses communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system, comprising:

an input interface unit (figure 4, reference 40) operative wirelessly to receive data to be deframed from one or more Radio Link Protocol (RLP) packet (page 4, paragraph [0050], lines 1-4); and

a conversion unit (figure 6, references 341-345) operative to deframe the received data based on the first set of control signals to process each data byte from the interface unit, wherein the received data is PPP packet data (page 5, paragraph [0058], lines 2-7).

However, Asahina does not disclose:

receive an RLP packet of data to be deframed, one word at a time, and for each received word provide one data byte at a time for subsequent processing;

a detection unit (figure 9, reference 308) operative to evaluate each data byte from the input interface unit; and

a state control unit operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific values.

In an analogous art, Shacher et al. disclose:

receive an RLP packet of data to be deframed, one word at a time, and for each received word provide one data byte at a time for subsequent processing (col. 7, lines 10-11);

a detection unit (figure 9, reference 308) operative to evaluate each data byte from the input interface unit (col. 11, line 65 to col. 12, line 1); and

a state control unit (figure 9, reference 312) operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific values (col. 12, lines 27-57).

One skilled in the art would have recognized the detection unit, and would have applied Shacher et al.'s detection circuitry 308 in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Shacher et al.'s multichannel HDLC framing/deframing machine in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being to identify flags (col. 11, line 67 to col. 12, line 1).

Asahina in view of Shacher et al. does not expressly disclose removing flag and escape bytes, un-escaping a data byte following each escape byte, providing a header word for each flag byte, and checking each deframed packet based on a flame check sequence (FCS) value associated with the packet; and an output interface unit operative to provide deframed data; and wherein the RLP packet includes one or more complete or partial PPP packets having a format defined by RFC1662. In an analogous art, Aggarwal et al. disclose removing flag and escape bytes, un-escaping a data byte following each escape byte, providing a word for each flag byte (col. 1, lines 43-44, and col. 13, line 66 to col. 14, line 14).

One skilled in the art would have recognized the removing flag and escape bytes, un-escaping a data byte following each escape byte, providing a word for each flag byte, and wherein the operating states further include an escape state indicative of processing for an escape byte, and would have applied Aggarwal et al.'s HDLC operation in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Aggarwal et al.'s method of

and apparatus for inserting and/or deleting escape characters into and from data

packets and datagrams therefor on high speed data stream networking lines in

Asahina's communication system between a radio communication network and a

connectionless network and interworking apparatus for use in the communication

system with the motivation being compared with either 7d or 7e or some programmed

ACCM characters (col. 14, lines 7-9).

Furthermore, Asahina in view of Shacher et al. and Aggarwal et al. does not

expressly disclose providing a header word for each flag byte, and checking each

deframed packet based on a flame check sequence (FCS) value associated with the

packet; and an output interface unit operative to provide deframed data; and wherein

the RLP packet includes one or more complete or partial PPP packets having a format

defined by RFC1662. In an analogous art, W. Simpson discloses providing a header

word for each flag byte (page 4, section 3.1 Frame Format), and checking each

deframed packet based on a flame check sequence (FCS) value associated with the

packet (page 5, section 3.1 Frame Format); and an output interface unit operative to

provide deframed data; and wherein the RLP packet includes one or more complete or

partial PPP packets having a format defined by RFC1662 (See W. Simpson, RFC:

1662).

One skilled in the art would have recognized the providing a header word for

each flag byte, and would have applied W.Simpson's frame format in Asahina's

interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art

at the time of the invention, to use W. Simpson's PPP in HDLC-like Framing in

Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being to provide the PPP HDLC-like frame structure (section 3.1 Frame Format).

For claim 19, Asahina discloses communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system, comprising:

an input interface unit (figure 4, reference 40) operative wirelessly to receive data to be deframed from one or more Radio Link Protocol (RLP) packet (page 4, paragraph [0050], lines 1-4); and

a conversion unit (figure 6, references 341-345) operative to deframe the received data based on the first set of control signals to process each data byte from the interface unit, wherein the received data is PPP packet data (page 5, paragraph [0058], lines 2-7).

However, Asahina does not disclose:

receive an RLP packet of data to be deframed, one word at a time, and for each received word provide one data byte at a time for subsequent processing;

a detection unit operative to evaluate each data byte from the input interface unit;

a state control unit operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific values.

In an analogous art, Shacher et al. disclose:

receive an RLP packet of data to be deframed, one word at a time, and for each received word provide one data byte at a time for subsequent processing (col. 7, lines 10-11);

a detection unit (figure 9, reference 308) operative to evaluate each data byte from the input interface unit (col. 11, line 65 to col. 12, line 1);

a state control unit (figure 9, reference 312) operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific values (col. 12, lines 27-57).

One skilled in the art would have recognized the detection unit, and would have applied Shacher et al.'s detection circuitry 308 in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Shacher et al.'s multichannel HDLC framing/deframing machine in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being to identify flags (col. 11, line 67 to col. 12, line 1).

Asahina in view of Shacher et al. does not expressly disclose removing flag and escape bytes, un-escaping a data byte following each escape byte, providing a header word for each flag byte, and checking each deframed packet based on a flame check sequence (FCS) value associated with the packet; and an output interface unit operative to provide deframed data; and wherein the RLP packet includes one or more complete or partial PPP packets having a format defined by RFC1662. In an analogous art, Aggarwal et al. disclose removing flag and escape bytes, un-escaping a data byte

following each escape byte, providing a word for each flag byte (col. 1, lines 43-44, and col. 13, line 66 to col. 14, line 14).

One skilled in the art would have recognized the removing flag and escape bytes, un-escaping a data byte following each escape byte, providing a word for each flag byte, and wherein the operating states further include an escape state indicative of processing for an escape byte, and would have applied Aggarwal et al.'s HDLC operation in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Aggarwal et al.'s method of and apparatus for inserting and/or deleting escape characters into and from data packets and datagrams therefor on high speed data stream networking lines in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being compared with either 7d or 7e or some programmed ACCM characters (col. 14, lines 7-9).

Furthermore, Asahina in view of Shacher et al. and Aggarwal et al. does not expressly disclose providing a header word for each flag byte, and checking each deframed packet based on a flame check sequence (FCS) value associated with the packet; and an output interface unit operative to provide deframed data; and wherein the RLP packet includes one or more complete or partial PPP packets having a format defined by RFC1662. In an analogous art, W. Simpson discloses providing a header word for each flag byte (page 4, section 3.1 Frame Format), and checking each deframed packet based on a flame check sequence (FCS) value associated with the

packet (page 5, section 3.1 Frame Format); and an output interface unit operative to

provide deframed data; and wherein the RLP packet includes one or more complete or

partial PPP packets having a format defined by RFC1662 (See W. Simpson, RFC:

1662).

One skilled in the art would have recognized the providing a header word for

each flag byte, and would have applied W.Simpson's frame format in Asahina's

interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art

at the time of the invention, to use W. Simpson's PPP in HDLC-like Framing in

Asahina's communication system between a radio communication network and a

connectionless network and interworking apparatus for use in the communication

system with the motivation being to provide the PPP HDLC-like frame structure (section

3.1 Frame Format).

For claim 36, Asahina discloses communication system between a radio

communication network and a connectionless network and interworking apparatus for

use in the communication system, comprising:

an input interface unit (figure 4, reference 40) operative wirelessly to receive data

to be deframed from one or more Radio Link Protocol (RLP) packet (page 4, paragraph

[0050], lines 1-4); and

a conversion unit (figure 6, references 341-345) operative to deframe the

received data based on the first set of control signals to process each data byte from

the interface unit, wherein the received data is PPP packet data (page 5, paragraph

[0058], lines 2-7).

However, Asahina does not disclose:

to receive data to be deframed in one or more packets, one word at a time, and for each received word provide one data byte at a time for subsequent processing;

a detection unit (figure 9, reference 308) operative to evaluate each data byte from the input interface unit to detect for bytes of specific;

a state control unit (figure 9, reference 312) operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific values.

In an analogous art, Shacher et al. disclose:

to receive data to be deframed in one or more packets, one word at a time, and for each received word provide one data byte at a time for subsequent processing (col. 7 lines 10-11);

a detection unit (figure 9, reference 308) operative to evaluate each data byte from the input interface unit to detect for bytes of specific values (col. 11, line 65 to col. 12, line 1);

a state control unit (figure 9, reference 312) operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific values (col. 12, lines 27-57).

One skilled in the art would have recognized the detection unit, and would have applied Shacher et al.'s detection circuitry 308 in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Shacher et al.'s multichannel HDLC framing/deframing machine in Asahina's

communication system between a radio communication network and a connectionless

network and interworking apparatus for use in the communication system with the

motivation being to identify flags (col. 11, line 67 to col. 12, line 1).

Asahina in view of Shacher et al. does not expressly disclose inserting an escape

byte for each data byte to be escaped and escaping the data byte, inserting flag byte in

response to receiving a first command, and inserting an FCS value in response to

receiving a second command; and an output interface unit operative to provide framed

data having a format defined by RFC 1662. In an analogous art, Aggarwal et al.

disclose inserting an escape byte for each data byte to be escaped and escaping the

data byte, inserting flag byte in response to receiving a first command (col. 13, lines 66-

67).

One skilled in the art would have recognized the escape byte for each data byte

to be escaped and escaping the data byte, inserting flag byte in response to receiving a

first command, and would have applied Aggarwal et al.'s HDLC operation in Asahina's

interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art

at the time of the invention, to use Aggarwal et al.'s method of and apparatus for

inserting and/or deleting escape characters into and from data packets and datagrams

therefor on high speed data stream networking lines in Asahina's communication

system between a radio communication network and a connectionless network and

interworking apparatus for use in the communication system with the motivation being

compared with either 7d or 7e or some programmed ACCM characters (col. 14, lines 7-

9).

Furthermore, Asahina in view of Shacher et al. and Aggarwal et al. do not expressly disclose inserting an FCS value in response to receiving a second command; and an output interface unit operative to provide framed data having a format defined by RFC 1662. In an analogous art, W. Simpson discloses inserting an FCS value in response to receiving a second command; and an output interface unit operative to provide framed data having a format defined by RFC 1662 (page 5, section 3.1 Frame Format).

One skilled in the art would have recognized the inserting an FCS value in response to receiving a second command; and an output interface unit operative to provide framed data having a format defined by RFC 1662, and would have applied W.Simpson's frame format in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use W. Simpson's PPP in HDLC-like Framing in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being to provide the PPP HDLC-like frame structure (section 3.1 Frame Format).

7.   Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Asahina (US 2002/0015417) in view of Shacher et al. (US 5,671,223) further in view of W. Simpson, RFC 1662.

For claim 15, Asahina discloses communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system, comprising:

an input interface unit (figure 4, reference 40) operative wirelessly to receive data to be deframed (page 4, paragraph [0050], lines 1-4); and

a conversion unit (figure 6, references 341-345) operative to deframe the received data based on the first set of control signals to provide deframed data, wherein the received data is PPP packet data (page 5, paragraph [0058], lines 2-7).

However, Asahina does not disclose:

a detection unit operative to evaluate each data byte from the input interface unit to detect for bytes of specific values;

a state control unit operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific values.

In an analogous art, Shacher et al. disclose:

a detection unit (figure 9, reference 308) operative to evaluate each data byte from the input interface unit to detect for bytes of specific values (col. 11, line 65 to col. 12, line 1);

a state control unit (figure 9, reference 312) operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific values (col. 12, lines 27-57).

One skilled in the art would have recognized the detection unit, and would have applied Shacher et al.'s detection circuitry 308 in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Shacher et al.'s multichannel HDLC framing/deframing machine in Asahina's

communication system between a radio communication network and a connectionless

network and interworking apparatus for use in the communication system with the

motivation being to identify flags (col. 11, line 67 to col. 12, line 1).

Asahina in view of Shacher et al. does not expressly disclose operative to

provide a first header for a start of the data bloc. In an analogous art, W. Simpson

disclose operative to provide a first header for a start of the data bloc (section 3.1

Frame Format).

One skilled in the art would have recognized the operative to provide a first

header for a start of the data bloc, and would have applied W.Simpson's frame format in

Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary

skill in the art at the time of the invention, to use W. Simpson's PPP in HDLC-like

Framing in Asahina's communication system between a radio communication network

and a connectionless network and interworking apparatus for use in the communication

system with the motivation being to provide the PPP HDLC-like frame structure (section

3.1 Frame Format).

8.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to TOAN D. NGUYEN whose telephone number is

(571)272-3153. The examiner can normally be reached on M-F (7:00AM-4:30PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Firmin Backer can be reached on 571-272-6703. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/T. D. N./
Examiner, Art Unit 2616

/FIRMIN BACKER/
Supervisory Patent Examiner, Art Unit 2616